# InfiLINK XG and InfiLINK XG 1000



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This page describes the capabilities of the InfiLINK XG product family for device maintenance and network status monitoring. This article is only intended to briefly show the main parameters that are relevant for device monitoring and troubleshooting. For more information about the Web interface please proceed to the InfiLI NK XG / InfiLINK XG 1000 - Technical User Manual.

# Monitoring options

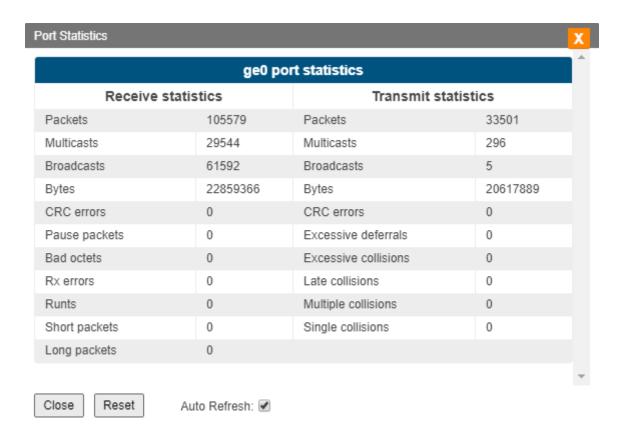
## Interface status

The "Status" section displays statistic for each physical interface as well as for logical "management" interface. The information about load, packet number and errors is shown on the main page.

# Status

Port	Status	Mode	Packets Rx/Tx	Errors Rx/Tx	Load (Kbps) Rx/Tx	Load (pps) Rx/Tx
mgmt	Up		180911 / 140642	0/0	26 / 27	16 / 12
ge0	Up	100 Mbps Full Duplex	99520 / 31470	0/0	20 / 25	9 / 4
ge1	Up		0/0	0/0	0/0	0/0
sfp	Up		0/0	0/0	0/0	0/0
radio	Up		79819 / 164921	0/0	3 / 19	5 / 13

In order to review detailed information about the transmitted packets and the errors type, extended statistics can be displayed by clicking on the interface you are interested in.



# Wireless link statistic

This section allows you to monitor the radio link parameters. The link status and main settings are displayed on top of this section, while the bottom part shows statistics for the Master and Slave unit, for both uplink and downlink directions. In case of the InfiLINK XG 1000 family, the information is shown for both carriers.

Wireless Link status	UP
Measured Distance	139 meters
Channel Width	40 MHz
DL/UL Ratio	59/41 (auto)
Frame Period	5 ms

	Device Type Master (local)		Slave (remote)			
Tx Capacity		2505	92 kbps	156038 kbps		
			0 (Up)			
Tx/Rx Frequency		5360 MHz		5360 MHz		
DFS status		DISABLED		DISABLED		
Tx/Rx Frames		28362928/11365498		28357000/16991880		
Rx Bad Frames		16		0		
Rx Acc FER		1.41e-6 (0%)		0e0 (0%)		
		Stream 0	Stream 1	Stream 0	Stream 1	
TX	MCS	QAM256 7/8 (8)	QAM256 6/8 (7)	QAM256 6/8 (7)	QAM256 6/8 (7)	
	Power	5 dBm	5 dBm	0 dBm	0 dBm	
RX	MCS	QAM256 6/8 (7)	QAM256 6/8 (7)	QAM256 6/8 (7)	QAM256 6/8 (7)	
	CINR	29 dB	29 dB	29 dB	30 dB	
	RSSI	-52 dBm	-51 dBm	-49 dBm	-48 dBm	
	Errors	2395	1814	3589	426	
	Acc TBER	6.53e-6 (0%)	4.95e-6 (0%)	6.67e-6 (0%)	7.92e-7 (0%)	

Auto Refresh: 🗹 Show GNSS Statistics Show Availability Statistics Reset AMC Statistics Clear All Counters

In addition to capacity and frames number, there are a few important parameters which allow to perform radio link quality monitoring.

## MCS

Displays the modulation and coding scheme that is in use at the receiver side. There are 11 MCS schemes available and if the AMC is set to auto, the MCS will dynamically change its value based on the link quality (at both units - local and remote). The maximum capacity varies based on the MCS in use. For example, for QAM256 7/8 (8): "QAM256" is the modulation in use, "7/8" is the coding scheme in use (for every 7 data bits, the encoder produces 8 bits to be sent over the air) and "(8)" represents the index of the MCS in use.

#### **CINR**

Displays the Carrier to Interference and Noise Ratio measured in downlink and expressed in dB. CINR can be limited either due to a low signal level or because of the interference from other radios. In order to obtain the highest modulations, values higher or equal to 28 dB are required.

## **RSSI**

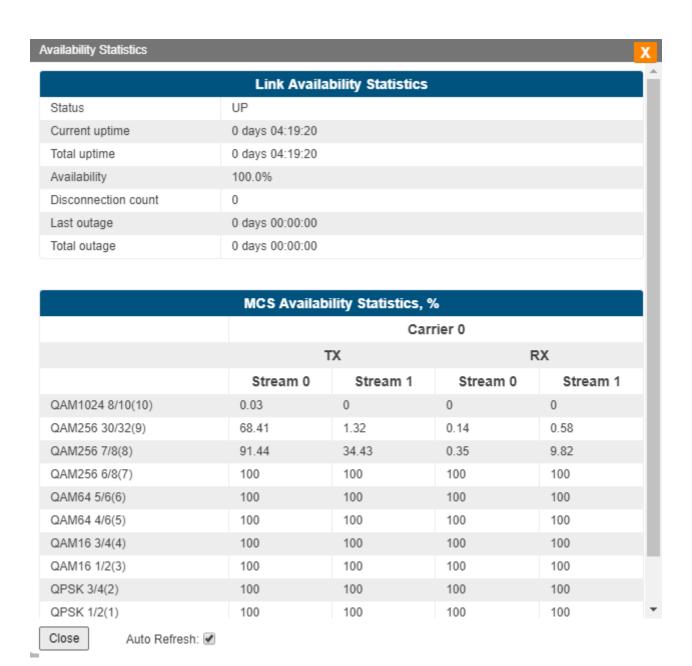
Displays the Received Signal Strength Indicator measured in downlink and expressed in dBm. Represents the power of the received signal as a whole (useful signal plus noise and interference) and if it goes below the level of the sensitivity, the link will go down. The recommended range for achieving the best performance is between -60 and -40 dBm.

## Acc TBER

Displays the Transport Block Error Ratio, showing the percentage of transport blocks with errors. Each application has an acceptable air block error rate defined as a minimum requirement.

#### **Availability statistics**

Link and MCS availability statistics are available on the bottom of the section by clicking on the "Show Availability Statistics" button.

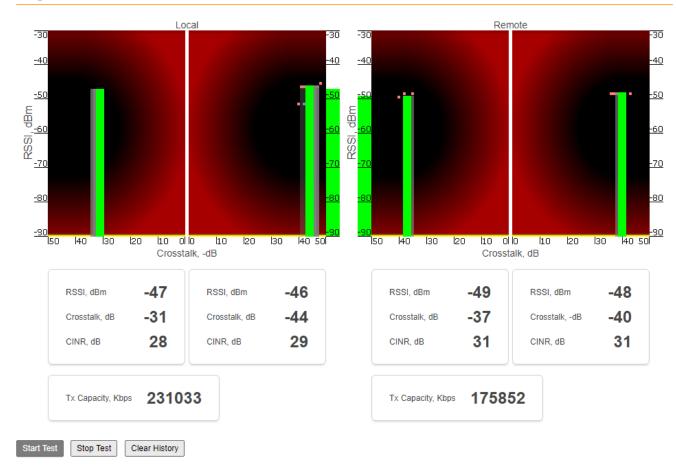


## Antenna alignment tool

An intuitive graphical tool that helps to check the antenna alignment and to troubleshoot problems related to the link quality (errors, poor signal level). It provides information about the RSSI level, the signal level and bitrate. Some basic guidelines:

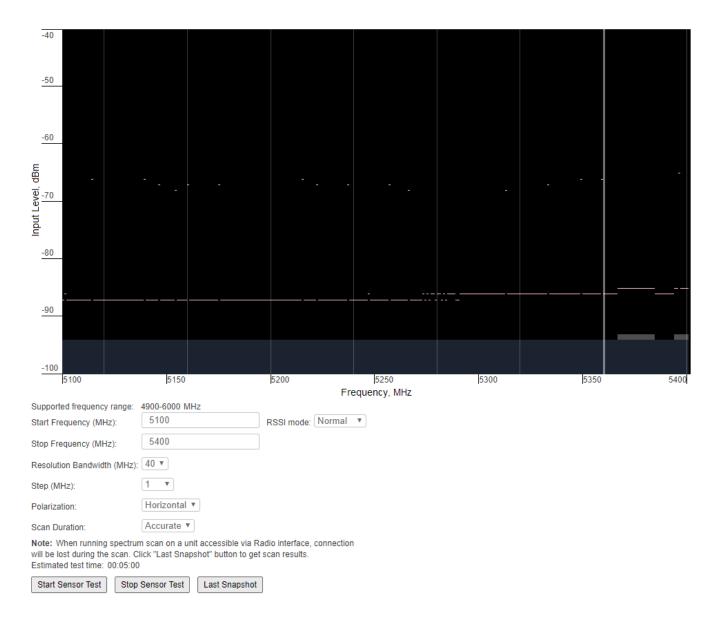
- For correct alignment, the green graphical indication for the signal level should be seen as close as possible to the center of the black area.
- In the text part, the optimal level for the RSSI is between -60 to -40 dBm, the CINR (carrier-to-interference-and-noise ratio) should be equal to or greater than 28 dB. The Crosstalk indicates the influence of the vertical and horizontal polarizations on each other, and it should not exceed -20 dB.

# **Alignment Tool**



# Spectrum analyzer

Performs a scan of the electromagnetic spectrum in the desired frequency range and provides detailed information about the emitting sources present in the area. While the test is being performed, the link is disconnected and the unit will operate in listening mode only. Interference can be easily spotted this way. Interference pulses are displayed for the frequencies that are busy. By pointing over the desired pulse, detailed information will be displayed about the strength of the interference: input level, max and average RSSI. The scan is available based on customized parameters: start/stop frequency, band, step, and scan duration.



# Maintenance

The following management options are available from the Web interface, Maintenance section:

#### Firmware, license and configuration management

The existing firmware, license or configuration can be viewed, downloaded or updated. The firmware can be updated in two ways, automatically by clicking the "Check Latest Release" button or manually by uploading it from the FTP server <a href="https://ftp.infinet.ru/">https://ftp.infinet.ru/</a>.

#### Unit reboot

For remote reboot of the unit.

#### Restore to factory settings

If needed, the unit can be restored to the factory default settings.

#### Diagnostic card creation

In order to gather complete troubleshooting information and send it to the InfiNet Wireless technical support team, a diagnostic card must be created. This includes the configuration, system log messages, various output parameters, system messages, license information etc.

# Title

## **Firmware**

Firmware Version: H12S10v1.7.12 Dec 27 2018 15:03:47 Build Date: Serial Number:

501813

SkyMAN Um/5.500.2x500 Processor: DAN ARM926E Part Number:

Platform: Processor: DAN ARM926EJ-S 600 MHz rev.D

Uptime: 1 days 01:10:27 Last Reboot Reason: manual delayed restart Download Certificate for upgrade over SSL

Check Latest Release Check Latest Beta

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License:	Выберите файл Файл не выбран Х	Download License	
Firmware:	Выберите файл Файл не выбран Х	Download Firmware	
Configuration:	Выберите файл Файл не выбран Х	Download Configuration	
Upload			
	View System Log	View Current License View Current Configuration	Create Diagnostic Card
Reboot	Clear System Log Restore Factory Settings		